A PARTNERSHIP BETWEEN POTOMAC CONSERVANCY AND THE MONTGOMERY COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION

RAINSCAPES

Harvesting the Heavens

For imaginative landscapers, rain gardens may represent the perfect marriage of heaven and earth. Specially-designed garden areas help to receive and store rainfall, using that moisture to nourish an oasis of interesting native plant communities reminiscent of lush streambanks and freshwater marshes.

The notion of developing rain gardens has received a lot of attention in our area recently. Local jurisdictions such as Prince Georges County, have made considerable progress in developing "biorentention" structures to control the quantity and quality of stormwater runoff, seeing rain gardens as attractive, cost-effective options to curbside storm drains and large stormwater ponds.

In essence, rain gardens function like miniature wetlands. Rainwater from paved surfaces and downspouts is directed to a low-lying garden area which allows the water to be stored temporarily until it is absorbed by the plants and soil. Any pollutants, such as fertilizer, pesticide residue, or even oil, grease, and heavy metals from roadways, are effectively trapped by the rich organic soil and root systems in the garden, permitting clean water to slowly soak down through the soil and rocky subsoil until it "recharges" groundwater supplies.

Sophisticated rain gardens are designed to accommodate all of the rainwater from a surrounding area: rooftop, driveways, walkways, and so on. Moreover, a true rain garden is developed with consideration for existing soil types, and often includes underdrain systems, in addition to lasagna-like layers of gravel, landscape fabric, sand, and amended soil. However, while effective, the *bona fide* approach is complicated and relatively expensive. And most homeowners do not have the stomach for bringing earth moving equipment into their backyards and turning 60 percent of their landscape into a stormwater marsh.

Fortunately, many of the features and benefits of a carefully engineered rain garden can be employed by backyard gardeners willing to give up a bit of lawn in favor of a colorful, low maintenance backyard habitat.

A basic approach might be to identify at least one downspout which can be redirected toward an area which slopes gradually away from your home. Keep the rain garden at least 15 feet away from the building, and ensure that all water flows away from the house to prevent dampness or flooding in your basement.

Lay out your garden on the gentle slope, preferably in an irregular shape, such as a kidney bean or round-cornered

crescent. Use an old hose to help create an attractive outline and start removing the top layer of turf and soil. For your garden to effectively capture runoff, dig down on an angle to about one foot. Most of the material you remove can be used to build up or "berm" the sides of the garden.

The next step is the most crucial. Your goal is to create an area which will act like a sponge to soak up hundreds of gallons of rainwater. Local heavy clay soils will never function properly, and you will need to amend or replace the clay with compost – and lots of it. You can use the compost by itself, or mix it with topsoil and even some of the soil you have excavated. You might also want to add well- rotted leaves to the mix.

Flexible downspouts can deliver water to your garden, or you might bury corrugated drainage pipe in a trench and bring it to within one or two feet of the garden. It is important to allow rainwater to run over a grassy area or planted buffer before reaching the garden. You do not want a surge of rainwater to start eroding soils and washing away mulch.

Planting is, of course, the fun part of the process. But before planting, let your garden handle several rainstorms first, to ensure that your soil amendments have settled appropriately, and to guarantee that water will not pond in the garden more than three days. If done properly, excess rainfall will flow over the garden and continue across your lawn, and water "harvested" by the garden will be absorbed within 24 hours. If water ponds for three days or more, you will need to improve the soil with more organic amendments and possibly lower the downslope side of the garden to improve runoff.

The plants you select for your rain garden are often unlike those used in conventional settings. Native perennials that enjoy moist and even saturated soils will thrive in your garden, and will encourage visitation by butterflies, hummingbirds, and other nectar and berry feeders. Your pallette can include swamp milkweed, columbine and asters, ironweed, lobelia, blue flag, bluebells and bluestem grasses, bee balm, ferns, sedges and switchgrass, boneset, gentians, liatris, and much more.

Many of these natives are now sold by local nurseries, where experienced horticultural staff can help match suitable plants with your rain garden needs. You will need to consider sun or shade exposure, how moist your garden soil is and the duration of wetness, and also think about how well your plant selections can tolerate drought periods. And, after planting, be sure to mulch your garden to save every drop of precious rainwater.

For more information, visit **www.rainscapes.org** or contact the following organizations:

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